



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0503; Directorate Identifier 2011-SW-032-AD]

RIN 2120-AA64

Airworthiness Directives; Eurocopter Deutschland GmbH Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Eurocopter Deutschland GmbH (ECD) Model BO-105A, BO-105C, and BO-105S helicopters. This proposed AD is prompted by initial findings from an accident investigation of an ECD Model BO 105 helicopter which indicated deterioration of the main gearbox (MGB) caused by a contaminated oil supply. The proposed actions are intended to detect oil contamination in the MGB, which if not detected, could result in MGB deterioration, MGB failure, and subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- **Federal eRulemaking Docket:** Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- **Fax:** 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

EXAMINING THE AD DOCKET: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, TX 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at <http://www.eurocopter.com/techpub>. You may review copies of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

FOR FURTHER INFORMATION CONTACT: Rao Edupuganti, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5110, e-mail rao.edupuganti@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued AD No.: 2011-0091, dated May 18, 2011 (AD 2011-0091), which supersedes EASA AD No.: 2010-0223, dated October 26, 2010 (AD 2010-0223), to correct an unsafe condition for all ECD BO105 A, BO105 C, BO105 D, and BO105 S helicopters. EASA advises that in 2010, an accident occurred with a BO105 helicopter and the initial findings indicated that “the event was linked

with” a deterioration of the MGB due to a contaminated oil supply. EASA states this condition, if not detected, could lead to MGB failure and consequent loss of control of the helicopter.

FAA’s Determination

These helicopters have been approved by the aviation authority of Germany and are approved for operation in the United States. Pursuant to our bilateral agreement with Germany, EASA, its technical representative, has notified us of the unsafe condition described in the EASA AD. We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition is likely to exist or develop on other helicopters of the same type design.

Related Service Information

ECD issued Alert Service Bulletin (ASB) BO105-10-125, dated September 2, 2010 (BO105-10-125), which specifies a one-time inspection of the MGB magnetic plug / chip detector (magnetic plug) and oil filter, and revised criteria for the corrective action to be taken as a result of the inspection. EASA issued AD 2010-0223, mandating the requirements of BO105-10-125 and applying the revised criteria to future MGB magnetic plug inspections.

Since that AD was issued, it was determined that repetitive inspections of the magnetic plug and oil filter are necessary. ECD revised the ASB and issued ASB BO105-10-125, Revision 1, dated April 4, 2001 (BO105-10-125R1), which retains the requirements of BO105-10-125 and requires an inspection of the magnetic plug every 10 flight hours and an inspection of the oil filter every 100 flight hours. EASA classified this ASB as mandatory and issued AD 2011-0091, which supersedes AD 2010-0223.

Proposed AD Requirements

This proposed AD would require inspecting the MGB oil filter and MGB magnetic plug. If the MGB oil filter or MGB magnetic plug contains metallic fuzz, depending on the amount of metallic fuzz, this proposed AD would require cleaning the magnetic plug, flushing the main transmission, changing the oil, and performing a ground run. If the MGB oil filter or MGB magnetic plug contains a chip, this proposed AD would require replacing the main transmission with an airworthy main transmission, and cleaning the oil cooler and oil lines. This proposed AD would also require repeating the MGB magnetic plug inspection every 10 hours time-in-service (TIS), and repeating the MGB oil filter inspection every 100 hours TIS.

Differences between this AD and the EASA AD

The EASA AD applies to Model BO105 D helicopters; the proposed AD does not as this model is not type certificated in the U.S.

Costs of Compliance

We estimate that this proposed AD would affect 97 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. Inspecting and cleaning the magnetic plug and oil filter would require approximately 2 work-hours at an average labor rate of \$85 per hour, for a total cost per inspection cycle of \$170 per helicopter and a total cost to the U.S. operator fleet of \$16,490. Flushing the main transmission, performing a ground run, and re-inspecting the MGB oil filter and magnetic plug would require approximately 4 work-hours at an average labor rate of \$85 per hour, for a cost per helicopter of \$340. Replacing the main transmission would

require approximately 40 work-hours at an average labor rate of \$85 per hour, and required parts would cost \$225,000, for a total cost per helicopter of \$228,400.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new Airworthiness Directive (AD):

EUROCOPTER DEUTSCHLAND GMBH: Docket No. FAA-2012-0503;

Directorate Identifier 2011-SW-032-AD.

(a) Applicability.

This AD applies to Model BO-105A, BO-105C, and BO-105S helicopters, certificated in any category.

(b) Unsafe Condition.

This AD defines the unsafe condition as deterioration of the main gearbox (MGB) caused by oil contamination. This condition could result in MGB failure and subsequent loss of control of the helicopter.

(c) Compliance.

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(d) Required Actions.

(1) Within 100 hours time-in-service (TIS) or 3 months, or at the next scheduled MGB magnetic plug / chip detector (magnetic plug) inspection, whichever occurs first, and thereafter at intervals not to exceed 100 hours TIS, inspect the MGB oil filter for chips and the MGB magnetic plug for fine particles (magnetic fuzz) or chips. A “chip” is a solid piece of metal but not metallic fuzz.

(i) If there are no chips on the MGB oil filter or on the magnetic plug, and the metallic fuzz covers less than 25% of the magnetic plug, clean the magnetic plug.

(ii) If there are no chips on the MGB oil filter or on the magnetic plug, but the metallic fuzz covers 25% or more of the magnetic plug, flush the main transmission, change the oil, perform a ground run for 15 minutes at the flight-idle power setting, and then re-inspect the MGB oil filter and magnetic plug for a chip and the quantity of metallic fuzz on the metallic plug.

(iii) If there is a chip on the MGB oil filter or on the magnetic plug, or, after complying with paragraph (d)(1)(ii) of this AD, metallic fuzz covers 25% or more of the magnetic plug, replace the main transmission with an airworthy main transmission and clean the oil cooler and oil lines.

(2) At intervals not to exceed 10 hours TIS, inspect the magnetic plug for a chip or metallic fuzz in accordance with the requirements of paragraph (d)(1) of this AD.

(e) Alternative Methods of Compliance (AMOC).

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Rao Edupuganti, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5110, e-mail rao.edupuganti@faa.gov.

(2) For operations conducted under a Part 119 operating certificate or under Part 91, Subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(f) Additional Information.

(1) Eurocopter Alert Service Bulletin BO105-10-125, Revision 1, dated April 4, 2011, which is not incorporated by reference, contains additional information about the subject of this AD. You may review a copy of this information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth Texas 76137.

(2) The subject of this AD is addressed in European Aviation Safety Agency (EASA) AD No. 2011-0091, dated May 18, 2011.

(g) Subject.

Joint Aircraft Service Component (JASC) Code: 6320: Main Rotor Gearbox.

Issued in Fort Worth, Texas, on May 2, 2012.

Carlton N. Cochran,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

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